

## **Amendments to the Specification:**

*Please amend numbered paragraph [0015] as shown below:*

[0015] In one alternative embodiment of this invention, the catalyst system can be optimized and NO<sub>x</sub> reduction increased by vertically slicing the lean NO<sub>x</sub> trap and NH<sub>3</sub>-SCR catalyst substrates to create separate catalyst zones, such that the catalytic converter shell or can would have alternating sections of lean NO<sub>x</sub> trap and NH<sub>3</sub>-SCR catalysts, as shown in ~~Figure 4~~ Figures 4a, 4b, and 4c. Under this embodiment, both technologies, the lean NO<sub>x</sub> trap formulation and the NH<sub>3</sub>-SCR formulation, can be incorporated into a single substrate and/or a single converter can rather than placing the NH<sub>3</sub>-SCR catalyst downstream of the lean NO<sub>x</sub> adsorber as two separate and distinct catalyst substrates.

*Please amend numbered paragraph [0020] as shown below:*

[0020] ~~Figure 4 depicts~~ Figures 4a, 4b, and 4c depict three different zoned catalyst embodiments of the lean NO<sub>x</sub> and NH<sub>3</sub>-SCR catalyst system;

*Please amend numbered paragraph [0021] as shown below:*

[0021] ~~Figure 5 is a graph~~ Figures 5a, 5b, and 5c provide graphs illustrating the reduced levels of NO<sub>x</sub> and NH<sub>3</sub> emissions resulting from each of the three zoned catalyst embodiments depicted in ~~Figure 4~~ Figures 4a, 4b, and 4c at a 250° C inlet gas temperature and operating at a 50 second lean cycle and 5 second rich cycle;

*Please amend numbered paragraph [0015] as shown below:*

[0022] ~~Figure 6 is a graph~~ Figure 6a, 6b, and 6c provide graphs illustrating the reduced levels of NO<sub>x</sub> and NH<sub>3</sub> emissions resulting from each of the three

zoned catalyst embodiments depicted in ~~Figure 4~~ Figures 4a, 4b, and 4c at a 200° C inlet gas temperature and operating at a 25 second lean cycle and a 5 second rich cycle;

*Please amend numbered paragraph [0023] as shown below:*

[0023] ~~Figure 7 shows~~ Figures 7a, 7b, and 7c show three proposed examples of washcoat configurations incorporating the lean NO<sub>x</sub> trap and NH<sub>3</sub>-SCR formulations into the same substrate;

*Please amend numbered paragraph [0046] as shown below:*

[0046] As illustrated in ~~Figure 4~~ Figures 4a, 4b, and 4c, three zoned catalyst system embodiments were evaluated on a laboratory flow reactor. The total catalyst system dimensions were held constant at a 1" diameter and 2" length. The first system, labeled "4a", had a 1" long lean NO<sub>x</sub> trap followed by a 1" long NH<sub>3</sub>-SCR catalyst. In the second system, labeled "4b", the catalyst samples were sliced in half to yield alternating ½" long sections. Finally, in the third system, labeled "4c", the same catalyst samples were further cut in half to yield ¼" long sections, again of the lean NO<sub>x</sub> trap and NH<sub>3</sub>-SCR catalyst technologies. It should be noted that each time the catalysts were sliced, as shown in "4b" and "4c", the overall length of the catalyst system was reduced slightly, approximately 3/16" total. The alternating lean NO<sub>x</sub> trap and NH<sub>3</sub>-SCR catalyst zones can be created in a single substrate or the lean NO<sub>x</sub> trap and NH<sub>3</sub>-SCR catalyst prepared, cut as desired and then placed adjacent one another in a single can. The zones are preferably formed in a single substrate. However, cut substrates placed in alternating fashion also exhibit improved net NO<sub>x</sub> conversion.